

Appl No. 09/715,629
Amendment dated:
Reply to OA of: January 6, 2005

REMARKS/ARGUMENTS

Applicants have carefully reviewed the Examiner's Office Action dated January 6, 2005, in which the Examiner rejected claims 6 to 9 under 35 U.S.C. 102(b) as being anticipated by Anagnostopoulos (U.S. 4,490,036); and rejected claim 10 under 35 U.S.C. 102(b) as being anticipated by Kamasz et al. (U.S. 5,585,652).

Amendments to the Claims

In the previous amendment, applicants intended to rewrite claim 10 to include all of the limitations of the base claim and intervening claims. However, there occurred an error in rewriting claim 10. Claim 10 has been amended once more to include all of the limitations of the base claim and intervening claims, and therefore would be allowable as the Examiner has acknowledged.

Rejection under 35 U.S.C. 102(b) by Anagnostopoulos (U.S. 4,490,036)

The rejection of claims 6 to 9 under 35 U.S.C. 102(b) as being anticipated by Anagnostopoulos has been carefully considered but is most respectfully traversed. In this regard, Applicants wish to direct the Examiner's attention to MPEP §2131 which states that to anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the

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claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). "The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required." *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The present invention, as defined in claim 6, is directed to a solid state imaging device for use in a solid state imaging apparatus, the device comprising means for receiving an incident light, two physically separated accumulation means, two transfer means, control means, and means for calculating a difference.

Applicants most respectfully submit that Anagnostopoulos fails to disclose the two physically separated accumulation means.

The present invention employs two physically separated accumulation means. Accordingly, in the present invention, while the light emitting means alternates between on-state and off-state repeatedly, the accumulation means can collect the signal charges of the repeated on-states and the signal charges of the repeated off-states, separately. That is, in accordance with the present invention, the signal charges generated during the repeated on-states can be additionally accumulated in one of the two accumulation means, while the signal charges generated during the repeated off-states can be additionally accumulated in the other of the two accumulation means, respectively. In this way, it becomes

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possible to transfer the additionally accumulated charges in the respective two accumulation means as a first charge signal and a second charge signal, respectively. By virtue of the additional accumulation of the signal charges generated during the repeated on-states and the repeated off-states separately, the effect of noise can be diminished considerably

On the contrary, Anagnostopoulos does not disclose the two physically separated accumulation means, and therefore, cannot acquire the above-described advantage.

The invention of Anagnostopoulos is directed to a rangefinder device that subtracts background from an image by using paired analog shift registers; senses the location of an object in the image; and determines the distance to the object. With reference to the Figs. 2 and 5, and the col. 2 lines 45-60 in the specification of Anagnostopoulos, the device includes a pair of analog shift registers prepared for an array of photosensors, wherein one of the shift registers receives and transfers photo signals generated by the array of photosensors when a light beam is turned on, whereas the other of the shift registers receives and transfers for the photo signals generated by the array of photosensors when the light beam is turned off.

The Official Action relates the photo charges generated during the time duration " $T1/\Phi1-4$ " to the first accumulation means of the present invention, and relates the photo charges generated during the time duration " $T2/\Phi1-4$ " to the second accumulation means of the present invention. However, with reference to col 5, line 55 – col. 6, line 11 in the specification of Anagnostopoulos, it is apparent that the generation and accumulation of the charges take place only in the photosensor array during the time delay $\tau1$ and $\tau2$, and that the charges thus accumulated in the photosensor array are transferred to a differential means.

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without any other manipulation. That is, the charges generated during the time duration "T1/ Φ 1-4" are accumulated in the photosensor array, and the charges generated during the time duration "T2/ Φ 1-4" are accumulated also in the photosensor array. In other words, both of the accumulations take place in a same location, the photosensor array, not two physically separated accumulation means, which in turn makes it indispensable to output the charges generated in the photosensor array immediately. Consequently, it is impossible to additionally accumulate the charges generated during the repeated on-states and the repeated off-states, separately, and accordingly, it cannot diminish the effect of noise considerably.

Therefore, the subject matters in claim 6 are patentably distinct from the disclosure of the cited reference. Accordingly, it is most respectfully requested that this rejection be withdrawn.

It is also believed that claims 7, 8 and 9, depending on claim 6, are allowable for the same reasons indicated with respect to claim 6, and further because of the additional features recited therein which, when taken alone and/or in combination with the features recited in claim 6, remove the invention defined therein further from the disclosure made in the cited reference.

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CONCLUSION

Applicants believe that this is a full and complete response to the Office Action. For the reasons discussed above, applicants now respectfully submit that all of the pending claims are in complete condition for allowance. Accordingly, it is respectfully requested that the Examiner's rejections be withdrawn; and that claims 1-11 be allowed in their present forms. If the Examiner feels that any issues that remain require discussion, he is kindly invited to contact applicant's undersigned attorney to resolve the issues.

In view of the above comments and further amendments to the claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested

Respectfully submitted,



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